

WHAT IS CLAIMED IS:

1. A method of frame processing in which a plurality of frames are sequentially fed into a frame processing device at a first refresh rate, wherein the frame processing device controls a refresh rate of the frames to be displayed in a display device, and the method comprising the steps of:

inputting a first input frame;

inputting a second input frame;

determining a plurality of corresponding output frames according to the first and second input frames, wherein the second input frame is input into the frame processing device after the first input frame is input; and

outputting the output frames sequentially from the frame processing device at a second refresh rate.

2. The method according to claim 1, wherein the relationship among the first and second input frames and the corresponding output frames is pre-stored in the frame processing device.

3. The method according to claim 1, wherein the second refresh rate is greater than the first refresh rate.

4. The method according to claim 3, wherein the second refresh rate is a multiple of the first refresh rate.

5. The method according to claim 1, wherein the second input frame includes a second pixel datum, and the first input frame includes a first pixel datum that corresponds to the second pixel datum; when the second pixel datum is greater than the first pixel datum, it indicates that the output frames

includes at least one overdrive output frame and the overdrive output frame includes an output pixel datum which is greater than the second pixel datum.

6. The method according to claim 5, wherein the overdrive output frame is first output frame output from the frame processing device.

5 7. The method according to claim 5, wherein the display luminosity of a pixel of the display device according to the output pixel datum is greater than the display luminosity of the pixel according to the second pixel datum.

8. The method according to claim 5, wherein the output frames have among them an overdrive compensation output frame which is output from the
10 frame processing device after the overdrive output frame and includes a pixel data that is smaller than the second pixel data.

9. The method according to claim 1, wherein when a second pixel datum of the second input frame is smaller than a first pixel datum of the corresponding first input frame, among all the output frames there is at least
15 one overdrive output frame which has an output pixel datum that is smaller than the second pixel data.

10. The method according to claim 9, wherein the overdrive output frame is the first output frame output from the frame processing device.

11. The method according to claim 9, wherein the display luminosity of a
20 pixel of the display device according to the output pixel datum is less than the display luminosity of the pixel according to the second pixel datum.

12. The method according to claim 9, wherein the output frames further includes an overdrive compensation output frame which is output from the frame processing device after the overdrive output frame and includes a pixel

datum that is greater than the second pixel datum.

13. The method according to claim 1, wherein the display device is a liquid crystal display (LCD) panel.

14. The method according to claim 13, wherein the relationship between the first and the second input frames, and the output frame is determined by the physical properties of the LCD panel, the luminance of the LCD panel, and the brightness perceived by human eyes.

15. A frame processing apparatus for controlling a plurality of frames to be fed into a display panel, the frame processing apparatus comprising:

a storing component for receiving a first input frame and a second input frame, wherein the first and second frames are input into the storing component at a first refresh rate; and

an output component, connected to the storing component, for sequentially outputting a plurality of output frames according to the first and second input frames at a second refresh rate.

16. The frame processing apparatus according to claim 15, wherein the output component comprises a memory device which stores entries about the relationship between the output frames and the first and second input frames.

17. The frame processing apparatus according to claim 16, wherein the memory device is a random access memory (RAM).

18. The frame processing apparatus according to claim 15, wherein the second refresh rate is greater than the first refresh rate.

19. The frame processing apparatus according to claim 18, wherein the second refresh rate is a multiple of the first refresh rate.

20. The frame processing apparatus according to claim 15, wherein when a second pixel datum in the second input frame is greater than a corresponding first pixel datum in the first input frame, at least one overdrive output frame is among the output frames and the overdrive output frame includes an output pixel datum which is greater than the second pixel datum.

21. The frame processing apparatus according to claim 20, wherein the frame processing apparatus outputs the overdrive output frame as the first output frame.

22. The frame processing apparatus according to claim 20, wherein the display luminosity of a pixel of the display panel in accordance with the output pixel datum is greater than the display luminosity of the second pixel datum.

23. The frame processing apparatus according to claim 20, wherein the output frames further includes an overdrive compensation output frame which is output from the frame processing apparatus after the overdrive output frame, and the overdrive compensation output frame includes an output pixel datum which is smaller than the second pixel datum.

24. The frame processing apparatus according to claim 15, wherein when a second pixel datum in the second input frame is smaller than a corresponding first pixel datum in the first input frame, at least one overdrive output frame is among the output frames, wherein the overdrive output frame includes an output pixel datum that is smaller than the second pixel datum.

25. The frame processing apparatus according to claim 24, wherein the frame processing apparatus outputs the overdrive output frame.

26. The frame processing apparatus according to claim 24, wherein the

display luminosity of a pixel of the display panel according to the output pixel datum is less than the display luminosity of the pixel according to the second pixel datum.

27. The frame processing apparatus according to claim 24, wherein the output frames further includes an overdrive compensation output frame which is output from the frame processing apparatus after the overdrive output frame, and the overdrive compensation output frame includes an output pixel datum which is greater than the second pixel datum.

28. The frame processing apparatus according to claim 15, wherein the display device is a liquid crystal display (LCD) panel.

29. The frame processing apparatus according to claim 28, wherein the relationship between the first and second input frames, and the output frame is determined by the physical properties of the LCD panel, the luminance of the LCD panel, and the brightness perceived by human eyes.

30. A method of frame processing in which a plurality of frames are sequentially input into a frame processing device at a first refresh rate, wherein the frame processing device controls a refresh rate of the frames to be displayed in a liquid crystal display (LCD) panel, the method comprising the steps of:

inputting a first input frame;

inputting a second input frame;

determining a plurality of corresponding output frames in accordance to the first and second input frames; wherein the second input frame is input into the frame processing device after the first input frame is input and the

relationship between the output frames and the first and second input frames is pre-stored in the frame processing device; and

outputting the output frames sequentially from the frame processing device at a second refresh rate;

5 wherein at least one overdrive output frame is among the output frames; when a second pixel datum of the second input frame is greater than a corresponding first pixel datum of the first input frame, a corresponding output pixel datum of the overdrive output frame is greater than the second pixel datum; when the second pixel datum of the second input frame is less than the
10 first pixel datum, the output pixel datum is less than the second pixel datum.

31. The method according to claim 30, wherein the second refresh rate is a multiple of the first refresh rate.

32. The method according to claim 30, wherein the relationship between the first and second input frames and the output frame is determined by the
15 physical properties of the LCD panel, the luminance of the LCD panel, and the brightness perceived by human eyes.

33. The method according to claim 30, wherein when the output pixel datum is greater than the second pixel datum, the luminosity of a pixel, in accordance with the value of the output pixel datum, of the LCD panel is greater
20 than luminosity of the pixel in accordance with the value of the second pixel datum.

34. The method according to claim 30, wherein when the output pixel datum is less than the second pixel datum, the luminosity of a pixel, in accordance with the value of the output pixel datum, of the LCD panel is less

than luminosity of the pixel in accordance with the value of the second pixel datum.

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